

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A motor control method for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:

detecting at least one of an output voltage value ~~or~~ and a command value of the inverter (4) as a detection value, and

controlling at least one of voltage ~~or~~ and current of the inverter (4) based upon the detection value so that one of the output voltage value ~~or~~ and the command value of the inverter (4) does not exceed a predetermined value.

2. (Currently Amended) A motor control method for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:

detecting at least one of an output voltage value ~~or~~ and a command value of the inverter (4) as a detection value, and

controlling at least one of voltage ~~or~~ and current of the inverter (4) based upon the detection value so that one of the output voltage value ~~or~~ and command value of the inverter (4) does not exceed a predetermined value, taking precedence over suppression of the rotational speed variations.

3. (Currently Amended) A motor control method as set forth in claim 1 or claim 2, wherein

the detection value is a peak value of one of the output voltage value of the inverter (4) ~~or~~ and the command value.

4. (Currently Amended) A motor control method for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:
- decreasing an amplitude of an output torque variation of the motor (5), and
- controlling at least one of voltage ~~or~~ and current of the inverter (4) so that at least one of the output voltage value ~~or~~ and the command value of the inverter (4) does not exceed a predetermined value.
5. (Currently Amended) A motor control method for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:
- detecting a current of the inverter (4) using current detection ~~means (11e)~~ section as a current detection value, and
- controlling at least one of voltage ~~or~~ and the current of the inverter (4) based upon the current detection value so as not to exceed ~~the~~ a current detection extent.
6. (Currently Amended) A motor control method for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:
- detecting a current of the inverter (4) as a current detection value using a current detection section (11e) for driving the motor (5), and
- controlling at least one of voltage ~~or~~ and the current of the inverter (4) based upon the current detection value so as not to exceed ~~the~~ a current detection extent, for driving the motor.
7. (Currently Amended) A motor control method for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output

torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:

decreasing an amplitude of an output torque variation of the motor (5), and
controlling at least one of voltage or and current of the inverter (4) so as not to exceed the a current detection extent.

8. (Currently Amended) A motor control method as set forth in one of claims 5-7, wherein

the output current of the inverter (4) is indirectly detected by detecting an input current of the inverter (4) using the current detection section (11e), and wherein with at least one of the voltage or and the current of the inverter (4) is being controlled so that the a peak value of the an input current of the inverter (4) in negative side does not exceed the predetermined value.

9. (Currently Amended) A motor control method for controlling at least one of voltage or and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the method comprising the steps of:

detecting or estimating load, and
not suppressing rotational speed variations of the motor (5) in correspondence with the load being smaller than a predetermined value.

10. (Currently Amended) A motor control method as set forth in claim 9, wherein the load is detected or estimated by means of an average current.

11. (Currently Amended) A motor control method for controlling at least one of voltage or and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress v of the motor (5) which drives a periodic load (6), wherein a converter (7) is provided which can control a direct current voltage supplied to the inverter, the method comprising the steps of:

detecting at least one of an output voltage value ~~or~~ and a command value of the inverter (4) as a detection value, and

controlling at least one of voltage ~~or~~ and the current of the inverter (4) based upon the detection value so that one of the output voltage value ~~or~~ and the command value of the inverter (4) does not exceed the predetermined value.

12. (Currently Amended) A motor control method as set forth in claim 11, wherein

the direct current voltage supplied to the inverter (4) is controlled based upon the detection value.

13. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the apparatus comprising:

a detection section (18) for detecting at least one of an output voltage value ~~or~~ and a command value of the inverter (4) as a detection value, and

an inverter control section (15) for controlling at least one of voltage and ~~or~~ current of the inverter (4) based upon the detection value so that one of the output voltage value and the command value of the inverter (4) does not exceed a predetermined value.

14. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the apparatus comprising:

a detection section (18) for detecting at least one of an output voltage value ~~or~~ and a command value of the inverter (4) as a detection value, and

an inverter control section (15) for controlling at least one of voltage and ~~or~~ current of the inverter (4) based upon the detection value so that one of the output voltage value and the ~~or~~ command value of the inverter (4) does not exceed a predetermined value, taking precedence over suppression of rotational speed variations.

15. (Currently Amended) A motor control apparatus as set forth in claim 13 or claim 14, wherein

the detection value is a peak value of one of the output voltage value of the inverter (4) or the command value.

16. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the apparatus comprising:

a section for decreasing an amplitude of an output torque variation of the motor (5),
and

an inverter control section (~~15~~) for controlling at least one of voltage and ~~or~~ current of the inverter (4) so that one of the output voltage value and the ~~or~~ command value of the inverter (4) does not exceed a predetermined value.

17. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the apparatus comprising:

a current detection section (~~11e~~) for detecting a the current of the inverter (4) as a current detection value, and

an inverter control section (~~15~~) for controlling at least one of voltage and the ~~or~~ current of the inverter (4) based upon the current detection value so as not to exceed ~~the~~ a current detection extent.

18. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), the apparatus comprising:

a current detection section (~~14e~~) for detecting as a current detection value at least one of an input current ~~or~~ and an output current of the inverter (4), for driving the motor (5), and
an inverter control section (15) for controlling at least one of voltage and ~~or~~ current of the inverter (4) based upon the current detection value so as not to exceed ~~the~~ a current detection extent, for driving the motor.

19. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (~~6~~), the apparatus comprising:

a section for decreasing an amplitude of an output torque variation of the motor (5),
and

an inverter control section (~~15~~) for controlling at least one of voltage and ~~or~~ current of the inverter (4) so as not to exceed ~~the~~ a current detection extent.

20. (Currently Amended) A motor control apparatus as set forth in one of claims 17-19, wherein

the current detection section (~~14e~~) indirectly detects the output current of the inverter (4) by detecting the input current of the inverter (4), and wherein the inverter control ~~means~~ section (~~15~~) controls at least one of voltage and ~~or~~ current of the inverter (4) so that ~~the~~ a peak value of the input current of the inverter (4) in negative side does not exceed a predetermined value.

21. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (~~6~~), the apparatus comprising:

a load detection section (~~20~~) for detecting or estimating load, and

an inverter control section (~~15~~) for not suppressing rotational speed variations of the motor (5) in correspondence with the load being smaller than a predetermined value.

22. (Currently Amended) A motor control apparatus as set forth in claim 21, wherein

the load detection section (20) detects or estimates load by ~~means of~~ an average current.

23. (Currently Amended) A motor control apparatus for controlling at least one of voltage ~~or~~ and current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotational speed variations of the motor (5) which drives a periodic load (6), wherein a converter (7) is provided which can control a direct current voltage supplied to the inverter (4), the apparatus comprising:

a detection section (18) for detecting ~~an~~ at least one of output voltage value ~~or~~ and a command value of the inverter (4) as a detection value, and

an inverter control section (15) for controlling at least one of voltage and ~~or~~ current of the inverter (4) based upon the detection value so that one of the output voltage value and the ~~or~~ command value of the inverter (4) does not exceed a predetermined value.

24. (Currently Amended) A motor control apparatus as set forth in claim 23, further comprising

a direct current voltage control section (21) for controlling the direct current voltage supplied to the inverter (4) based upon the detection value.